

Work Order ID 88278

88278

Page 1

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Item ID: D3671-1 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Placard
 Start Date: 7/27/12 Start Qty: 12.00 *12*
 Required Date: 8/10/12 Req'd Qty: 12.00 *12*
 Reference: Cust Item ID:
 Customer:

Approvals: Process Plan: MLJ Date: 12/08/03 Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3671	Rev A								
100	PURCHASING	0.00							
100									
Purchasing	Memo	0.00							
Purchasing	Issue P/O: <u>17626</u> Make as per Dwg D3671 Red letters (0.100" height) on white adhesive back Possible Manufacture: From 3M 7 mil masking film # 8522CP or Avery IPM # 2031 Possible Supplier: Studio Lettrage Material release note is required								<u>CL</u> <u>12/08/07</u> (30)
110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									
Packaging	Memo	0.00							
Packaging	Ensure Material Release Note is attached								<u>CL</u> (30)
120	QC6- Inspect dimensions to drawing	0.00							
120									
QC	Memo	0.00							
Quality Control									<u>CL</u> (30)

DAS 16 9-89 17/08/10

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube <input type="checkbox"/></td> <td style="width:15%;">Crosstube <input type="checkbox"/></td> <td style="width:15%;">Water Jet <input type="checkbox"/></td> <td style="width:15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Page 2

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location	0.00							
130									
Packaging	Memo	0.00				30x			
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

12/8/13
 MCT 12/08/10

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Picklist Print

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Page 1

Work Order ID: 88278

Parent Item: D3671-1

Parent Item Name: Placard

Start Date: 7/27/12

Required Date: 8/10/12

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP: A07.11.12 ecn 1019 New issue EC verified-by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3671-1P Placard		Purchased	No				Each	0.0000		12 30			

Curry (30)

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

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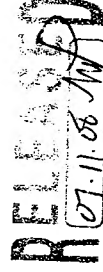
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

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NO. 88278 ML

12/08/03



A	NEW ISSUE		DC	07.08.27
REV.		DESCRIPTION	BY	DATE
DESIGN	<i>DC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	<i>DC</i>			
CHECKED	<i>DC</i>			
MFG. APPR.	<i>DC</i>		DRAWING NO.	REV. A
APPROVED	<i>DC</i>		D3671	SHEET 1 OF 1
DE APPR.	<i>DC</i>		TITLE	SCALE
DATE	07.08.27	PLACARD	1:1	

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 NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.

****Certificate of Conformity****

Customer:

Studio Lettrage

Purchase Order #:

17626

Packing Slip #:

Part #:

D3676-1A

Serial #:

D3012-SP

Description:

*(30 stickers # D3676-1A
10 stickers # D3012-SP)*

Quantity:

40

Certification:

We hereby certify that:

1. The above the listed items were manufactured, repaired and/or inspected in accordance with applicable drawings and/or specifications;
2. All work was accomplished in accordance with the Dart Aerospace Purchase Order;
3. Results of all inspections, chemical or physical tests, as well as other evidence, which shows the acceptability of raw materials, parts and/or assembly components are on file and available for inspection at any time.

Authority:

3M

APPROVAL:

GRACE BATISTA

DATE:

9-August-2012

Signature:

[Signature]

Title:

**210 Main Street W
Hawkesbury, Ontario K6A 2H6**

Invoice No.:	18500
Date:	08/08/2012
Ship Date:	08/09/2012
Page:	1
Re: Order No.	WO8064

Dart Aerospace Ltd
1270 Aberdeen
Hawkesbury, Ontario K6A 1K7

Dart Aerospace Ltd
Hawkesbury, Ontario

Item No.	Unit	Quantity	Description	Tax	Unit Price	Amount
		30	D3671-1P	H	3.875	116.25
		10	D3612-5P	H	3.875	38.75
			H - HST 13%			
			HST			20.15
Studio de Lettrage HST: #825007651RT0001						
Shipped By: Tracking Number:						
Comment: PO17626						
Sold By:						
					Total Amount	175.15



Product & Instruction Bulletin 8522

Release I, Effective September 2008
See *Bulletin Change Summary and end of Bulletin*
This Bulletin now includes Instruction Bulletin 4.23

Scotchcal™ Changeable Opaque Imaging Media 8522

Product Description

Recommended Types of Graphics and End Uses

For Thermal Inkjet Printing

This durable, 7 mil, opaque, changeable film is optimized for use with selected thermal inkjet printers and inks. Ink dries quickly on the film. When overlaminated, it is warranted for medium term, outdoor weatherable graphics, and long term indoor graphics.

When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty. Please read the entire Bulletin for details.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
 - Graphics for vans, personal vehicles, trucks and buses
 - Novelty posters
 - Retail and point-of-purchase displays
 - Information graphics such as maps and directories
 - Entertainment promotions in museums, zoos, parks, theatres, sports venues
 - Education and presentation graphics
 - Legal and courtroom exhibits
- For flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs or recommend other products.

Unsuitable End Uses for This Product

- Not for electronically cut individual letters and numbers
- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wallboard
- Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division at 1-800-328-1684 for alternatives.

About Water-Based Inkjet Technology

Standard inkjet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this Bulletin. Staying in the middle of these ranges always provides optimum performance.

Characteristic	Description
Warranted application substrates	<p>Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information.</p> <ul style="list-style-type: none"> • Alodine (anodized aluminum) • Automotive panels (automotive painted steel) • Fruehauf (painted aluminum) • FRP (fiberglass reinforced plywood) • Glass • Imron® (polyurethane-painted metal panel) • Acrylic • Sintra™ board <p>Note: Use on any other substrate is strictly on a graphics manufacturer and customer test and approve basis. Test for both adhesion and removal characteristics. The plasticizer in some banner materials may migrate. This may cause the edge of the graphic to peel or lift off of the banner. For optimum performance, follow the guidelines in the section, Creating A Laminated Overlap, on page 4.</p>

Warranty Information

The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor. **The warranties in the following table(s), given in years, are for finished graphics exposed in a vertical exposure in the United States except the Desert Southwest.** See the warranty sections following this table for additional information.

3M™ MCS™ Warranty Durability for Finished Graphics

Construction (film and overlamine on warranted substrate)	HP Printers & Inks		Epson Printers & Inks		Removal
	Outdoor	Indoor	Outdoor	Indoor	
8522/8519	3 years	5 years	2 years	5 years	1 year without chemical strippers or tools
8522/8520					

Warranty and Limited Remedy

The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

8. Flip the graphic over. You can roll the graphic for easier handling, if desired.
9. Strip back some of the liner, starting at the taped edge. Do not allow the adhesive to touch the substrate yet.
10. For hand lamination only:
 - a. Hold the graphic up with one hand and use the other hand to hold the squeegee.
 - b. Starting in the middle of the taped edge of the graphic, use smooth, overlapping strokes to each side of the graphic.
 - c. Stop immediately if you notice some wrinkling. Lift the wrinkled area and reposition. Then gently squeegee the wrinkle to finish smoothing it.
 - d. Pull back some more liner and continue squeegeeing the graphic. To finish the graphic, trim the substrate to the desired size.
11. For a laminator only:
 - a. Position the taped edge of the graphic into the laminator nip.
 - b. Start the laminator.
 - c. As the graphic is pulled through the nip, continue pulling off the liner.
 - d. To finish the graphic, trim the substrate to the desired size.
12. After applying the graphic, resqueegee all edges firmly. Premature lifting of the graphic may occur if the edges are not adequately laminated.

End of Day Protocol

- Unthread the web from the printer and tape the roll closed at the center. It is not necessary to remove the roll from the printer.
- If the media will not be used for a few days, remove it from the printer and rewrap it. See *Shelf Life, Storage and Shipping* on page 4.

Care and Cleaning of Graphics

Avoid contact between the finished graphic and water or other liquids during production, handling, and application, especially before laminating.

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline.)

Refer to 3M Instruction Bulletin 6.5 for general maintenance and cleaning information.

Removing Graphics

Always test the substrate for removal before applying the final graphic. Paint that has poor adhesion to the substrate may be pulled off when removing the film. Aged surfaces with oxidation or chalking may leave adhesive residue on the substrate after the film is removed.

If the substrate surface is appropriately sealed, just lift an edge of the graphic and peel it back at a 180 degree angle; lesser angles may leave adhesive residue. No heat or chemicals are required.

Health and Safety



CAUTION

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to 3M.com/MSDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.